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EXAMINER	
MOORE, IAN N	

ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/687,199	CZAJA ET AL.	
	Examiner	Art Unit	
	Ian N Moore	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 4-31* is/are rejected.

7)☒ Claim(s) *3* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 May 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Claim rejection under 35 USC § 112, first paragraph, on claim 12 is withdrawn.

2. Claims 1,12,21, and 22 are amended.

3. Claims 1,2, and 4-31 are rejected by the old and new grounds of rejection necessitated by the amendment.

Specification

4. The disclosure is objected to because of the following informalities: page 1, under the title "Cross Reference to related application", the co-pending application number is missing.

Appropriate correction is required.

Claim Objections

5. Claims 12, 21, and 22 are objected to because of the following informalities: Appropriate correction is required.

a) **Claim 12** recites, "**a** revise link" in line 1 and "**a** reverse link" in line 11. For clarity, it is suggested to change "**a** reverse link" in line 11 to "**the** reverse link".

b) **Claim 21** recites, "**a** revise link" in line 2 and "**a** reverse link" in line 14. For clarity, it is suggested to change "**a** reverse link" in line 14 to "**the** reverse link".

c) **Claim 22** recites, "**a** revise link portion" in line 1, "**a** reverse link" in line 11, and "**a** reverse link" in line 13. For clarity, it is suggested to change both "**a** reverse link" in line 11 and 13 to "**the** reverse link", respectively.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, 2, 4-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedemann (U.S. 5,999,816) in view of Chheda (U.S. 6,181,738).

Regarding Claim 1, Tiedemann discloses a method (see FIG. 5 and 7Aand B, method) of initiating a reverse-link portion of a handoff (see col. 3, lines 20-24; a mobile assist (i.e. on a reverse link portion) hard handoff) that has previously been directed (see FIG. 5, step 56, EDHM, Handoff Direction Message; see FIG. 7A, step 1104; see FIG. 5, steps 54-56; see col. 9, lines 35-43; see FIG. 7A, step 1104; see col. 14, lines 40-46) between a servicing base station (see FIG. 2, originating system base station S1; see col. 5, lines 26-30) and a target base station (see FIG. 2, destination system base station S2 (i.e.B1-B5); see col. 5, lines 32-35) in a CDMA communication system (see FIG. 1, CDMA System; see col. 5, lines 16-20) having a plurality of base stations in communication (see FIG. 2, originating system base station S1 and destination system base station S2 (i.e.B1-B5); see col. 5, lines 26-35) with at least one mobile station (see FIG. 2, mobile station M1-M3), wherein each base station transmits at least one associated and corresponding pilot channel that uniquely identifies the base station (see col. 5, lines 45-60; pilot signal/channel transmitted by base stations), comprising the step of:

a) obtaining a first parameter, (see FIG. 5, step 58,60; MIN_TOT_PWR; or see FIG. 7A, step 1106,1108,1112; signal strength or MIN_RX_PWR) associated with the serving base station (see col. 9, lines 39-42; originating system base station; see col. 5, lines 50-60; see col. 6, lines 23-25, 40-49; see col. 14, lines 20-26, 45-50; note that power/signal strength that transmits by the origination base station which is monitored/observed/measured and operated at the mobile station);

b) obtaining a second parameter (see FIG. 5, Step 58, 60; RECEIVED Ec/Io; or see FIG. 7A, step 1106, 1108,1112; signal strength or Rx Power), associated with the target base station (see FIG. 2, destination system base station S2 (i.e.B1-B5); see col. 9, lines 40-55; see col. 14, lines 24-64; note that the receive power, transmits by the destination base station, is monitored/observed/measured by the mobile station);

c) determining if the first parameter is less than or equal to the sum of the second parameter (see FIG. 5, step 60; see FIG. 7A, step 1108 and 1112; see col. 9, lines 45-50; see col. 14, lines 50-67; determining the signal strength for the hard handoff by comparing the measured signal strength values of target base station to original base station signal strength threshold);

d) returning to step (a) if the first parameter is not less than or equal to the sum of the second parameter (see FIG. 5, steps 68,66,69,72,70,64 and back to step 56,58; see col. 9, lines 38 to col. 10, lines 10; or see FIG. 7A, step 1108, 1112, 1114 and FIG. 7B, 1122,1128,130,1132 and returns to measuring step 1124; see col. 14, lines 39 to col. 15, lines 60; note that when power strength of originating base station is not less than or equal to the

power strength of target base station, the method returns to original system instead of successful handoff); and

e) initiating a reverse link portion of the previously directed handoff (see col. 3, lines 20-24; a mobile assist (i.e. on a reverse link portion) hard handoff previously directed by EDHM (see FIG. 5, step 56, EDHM)) between the serving and target base stations (see page 4, paragraph 58; a handoff between two generations of CDMA) if the first parameter is less than or equal to the sum of the second parameter (see FIG. 5, step 60 and 62; see col. 9, lines 45-55; see FIG. 7A, steps 1112,1116,1118,1130; see col. 14, lines 55 to col. 15, lines 15; a successful hard handoff);

wherein the reverse link portion of the handoff comprises a reverse link portion of a complete handoff, and wherein the reverse link portion includes terminating signal transmission from the mobile station to the serving base station and subsequently initiating signal transmission from the mobile station to the target base station (see col. 2, lines 10-20; col. 3, lines 20-24; a mobile assist (i.e. on a reverse link portion) hard handoff where the mobile station breaks/terminates transmission from originating base station, and then makes/initiates transmission to target base station).

Tiedemann does not explicitly disclose a) and b) Eb/Nt; c) an offset; and d) initiating and performing the selections and/or adjustments if the first parameter is less than or equal to the sum of the second parameter and the offset.

However, the above-mentioned claimed limitations are taught by Chheda. In particular, Chheda teaches

a) obtaining wherein the first parameter comprises the value of Eb/Nt (see FIG. 1, Measure Eb/No 105; see col. 2, lines 10-34; note that the value of Eb/No is the received power bit energy to noise density);

b) obtaining wherein the second parameter comprises the value Eb/Nt, that is associated with the target base station (see FIG. 1, Target Eb/No 110; see col. 2, lines 10-34; note that the value of Eb/No is the target received power bit energy to noise density);

c) determining if the first parameter is less than or equal to the sum of the second parameter and an offset (see col. 8, lines 1-42; Eb/No= $(Eb/No)_{tar}$-Delta (i.e. $(Eb/No)_{tar}$ = Eb/No + Delta); also see col. 4, lines 1-32, col. 2, lines 35-56; note that delta value (i.e. FER rate change) is determined by comparing the measured Eb/No with target $(Eb/No)_{tar}$. Delta is used to adjust/define the transmission rate according to GOS (Grade of service));

d) initiating and performing the selections and/or adjustments if the first parameter is less than or equal to the sum of the second parameter and the offset (see col. 2, lines 35-56 and col. 5, line 1-20; note that quality frame selection between two base stations during handoff is performed according to the comparison results from step C.)

Note that Tiedemann teaches the signal strength measurement of active and candidate base station in order to perform a handoff. Chheda teaches measuring the value of Eb/No, comparing them to the target value, determining the base station that sends quality frame during handoff, and utilizing delta as the quality adjustment/selection factor. Thus, Tiedemann system can be modified to perform a handoff based upon the Eb/No and delta per Chheda teaching. In view of this, having the system of Tiedemann and then given the teaching of Chheda, it would have been obvious to one having ordinary skill in the art at the

time the invention was made to modify the system of Tiedemann, by measuring the value of Eb/No, comparing them to the target value, determining the base station that sends quality frame during handoff, and utilizing delta as the quality adjustment/selection factor, as taught by Chheda. The motivation to combine is to obtain the advantages/benefits taught by Chheda since Chheda states at col. 4, line 1-4 and col. 5, line 15-20 that such modification would optimize the reverse link power control during rapid rate changes and provide a way to adjust/select quality frame during the handoff.

Regarding claim 2, Tiedemann further teaches wherein the step (b) further comprises obtaining a target base station Ec/Io, value (see col. 11, lines 25-30, see col. 14, lines 24-27; Ec/Io) associated with the target base station (see FIG. 2, destination system base station S2 (i.e.B1-B5); see col. 5, lines 32-35).

Regarding claim 4, Tiedemann discloses wherein the serving base station and the target base station operate in accordance to different generations of CDMA systems (see col. 2, lines 1-55; operation between CDMA inter-systems with employing alternate technology (i.e. alternate generation/system))).

Regarding claim 5, Chheda further teaches wherein the offset is based on a Frame Error Rate (FER) parameter (see col. 3, lines 30-60; note that delta value is the quality (GOS) variable according to FER.) In view of this, having the system of Tiedemann and then given the teaching of Chheda, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Chheda, by utilizing the delta value according to FER, as taught by Chheda, for the same motivation as stated above in Claim 1.

Regarding claim 6, Chheda further teaches wherein the offset is based on a Quality of Service (QoS) parameter (see col. 2, lines 14-20; note that delta value is the quality value according to GOS (grade of service).) In view of this, having the system of Tiedemann and then given the teaching of Chheda, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tiedemann, by utilizing the delta value according to GOS, as taught by Chheda, for the same motivation as stated above in Claim 1.

Regarding claim 7, Tiedemann further teaches wherein the step (e) of initiating a reverse link handoff is autonomously initiated by the mobile station (see FIG. 4; see FIG. 5, step 60 and 62; see col. 9, lines 45-55; see FIG. 7A, steps 1112,1116,1118,1130; see col. 14, lines 55 to col. 15, lines 15; see col. 2, lines 1-55; a hard handoff is automatically initiated/performed by the mobile station from the reverse link).

Regarding claim 8, Tiedemann discloses wherein the reverse link handoff is an intergenerational soft handoff comprising a forward link soft handoff and a reverse link hard handoff (see col. 2, lines 1-55; a soft and hard handoffs at forward link and reverse link).

Regarding Claim 9, the claim, which has substantially disclose all the limitations of the respective claim 7. Therefore, it is subjected to the same rejection.

Regarding claim 10, Tiedemann discloses wherein the reverse link handoff is an intergenerational hard handoff comprising a forward link hard handoff and a reverse link soft handoff (see col. 2, lines 1-55; a soft and hard handoffs at forward link and reverse link).

Regarding Claim 11, the claim, which has substantially disclose all the limitations of the respective claim 7. Therefore, it is subjected to the same rejection.

Regarding Claim 12, Tiedemann discloses an apparatus (see FIG. 4, Mobile Station) for initiating a reverse link portion of a handoff (see col. 3, lines 20-24; a mobile assist (i.e. on a reverse link portion) hard handoff) that has previously been directed (see FIG. 5, step 56, EDHM, Handoff Direction Message; see FIG. 7A, step 1104; see FIG. 5, steps 54-56; see col. 9, lines 35-43; see FIG. 7A, step 1104; see col. 14, lines 40-46) between a servicing base station (see FIG. 2, originating system base station S1; see col. 5, lines 26-30) and a target base station (see FIG. 2, destination system base station S2 (i.e.B1-B5); see col. 5, lines 32-35) in a CDMA communication system (see FIG. 1, CDMA System; see col. 5, lines 16-20) having a plurality of base stations in communication (see FIG. 2, originating system base station S1 and destination system base station S2 (i.e.B1-B5); see col. 5, lines 26-35) with at least one mobile station (see FIG. 2, mobile station M1-M3), wherein each base station transmits at least one associated and corresponding pilot channel that uniquely identifies the base station (see col. 5, lines 45-60; pilot signal/channel transmitted by base stations), comprising:

a) mobile station transmission control facilities (see FIG. 4, transmission facilities of MS such as pilot energy accumulator 530, received energy accumulator 540, modulator 550, transmitter 560, and control processor 520; see col. 7, lines 45-60) configured to send a pilot strength measurement message (see col. 11, lines 25-35; see col. 10, lines 20-35; sending a signal measurement message) to the serving base station (see FIG. 2, originating system base station S1; see col. 5, lines 26-30) and adding the target base station to an active set (see col. 9, lines 35-39; see col. 10, lines 25-36; adding to the active set) when a first parameter, Ec/Io, (see col. 11, lines 25-30, see col. 14, lines 24-27; Ec/Io) associated with the target base

station (see FIG. 2, destination system base station S2 (i.e.B1-B5), or candidate base station; see col. 5, lines 32-35) is greater than a T -Add threshold (see col. 11, lines 25-55; see col. 10, lines 20-35; T_Add); and

b) mobile station handoff control module (see FIG. 4, a control processor 520) for initiating a reverse link intergenerational hard handoff as the reverse link portion of a previously directed intergenerational handoff (see FIG. 5, step 60 and 62; see col. 9, lines 45-55; see FIG. 7A, steps 1112,1116,1118,1130; see col. 14, lines 55 to col. 15, lines 15; see col. 2, lines 1-55; a mobile assist (i.e. on a reverse link portion) inter-generation-system hard handoff) when a second parameter (see FIG. 5, step 58,60; MIN_TOT_PWR; or see FIG. 7A, step 1106,1108,1112; MIN_RX_PWR), associated with the serving base station (see FIG. 2, originating system base station S1; see col. 5, lines 26-30) is less than or equal to a sum of a third parameter , associated with the target base station (see FIG. 5, step 60; see FIG. 7A, step 1108 and 1112; see col. 9, lines 45-50; see col. 14, lines 50-67; comparing the measured signal strength values of target base station to original base station signal strength threshold in order to determine the signal strength for the hard handoff))

b) a reverse link handoff control block (see FIG. 4, a control processor 520) configured to implement a reverse link intergenerational hard handoff (see FIG. 5, step 60 and 62; see col. 9, lines 45-55; see FIG. 7A, steps 1112,1116,1118,1130; see col. 14, lines 55 to col. 15, lines 15; see col. 2, lines 1-55; a mobile assist (i.e. on a reverse link portion) inter-generation-system hard handoff) when, after the serving base station transmits an intergenerational handoff direction message to the mobile station (see FIG. 5, step 56, EDHM, Handoff Direction Message to mobile station; see FIG. 7A, step 1104; see FIG. 5,

steps 54-56; see col. 9, lines 35-43; see FIG. 7A, step 1104; see col. 14, lines 40-46), a second parameter (see FIG. 5, step 58,60; MIN_TOT_PWR; or see FIG. 7A, step 1106,1108,1112; Ec/Io or MIN_RX_PWR) associated with the serving base station (see FIG. 2, originating system base station S1; see col. 5, lines 26-30) is less than or equal to a sum of third parameter (see FIG. 5, Step 58, 60; RECEIVED signal strength/power; or see FIG. 7A, step 1106, 1108,1112; signal strength or Rx Power) associated with the target base station (see FIG. 2, destination system base station S2 (i.e.B1-B5); see FIG. 5, step 60; see FIG. 7A, step 1108 and 1112; see col. 9, lines 45-50; see col. 14, lines 50-67; comparing the measured signal strength values of target base station to original base station signal strength threshold in order to determine the signal strength for the hard handoff);

wherein reverse link intergenerational hard handoff comprise a portion of an intergeneration handoff, distinct from a forward link portion, and includes terminating signal transmissions from the mobile station to the servicing station and subsequently initiating signal transmission from the mobile station to the target base station (see col. 2, lines 1-55; col. 3, lines 20-24; a mobile assist (i.e. on a reverse link portion) inter-system hard handoff where the mobile station breaks/terminates transmission from originating base station, and then makes/initiates transmission to target base station. An inter-system hard handoff at reverse link from the remote unit is distinct from a forward link).

Tiedemann does not explicitly disclose the second parameter Eb/Ni is less than or equal to a sum of a third parameter, Eb/Nt and an offset.

However, the above-mentioned claimed limitations are taught by Chheda. In particular, Chheda teaches wherein determining a second parameter, Eb/Nt (see FIG. 1,

Measure Eb/No 105; see col. 2, lines 10-34; note that the value of Eb/No is the received power bit energy to noise density), is less than or equal to a sum of a third parameter, Eb/Nt (see FIG. 1, Target Eb/No 110; see col. 2, lines 10-34; note that the value of Eb/No is the target received power bit energy to noise density) and an offset (see col. 8, lines 1-42; Eb/No= $(Eb/No)_{tar}$-Delta (i.e. $(Eb/No)_{tar}$ = Eb/No + Delta); also see col. 4, lines 1-32, col. 2, lines 35-56; note that delta value (i.e. FER rate change) is determined by comparing the measured Eb/No with target $(Eb/No)_{tar}$. Delta is used to adjust/define the transmission rate according to GOS (Grade of service))

Note that Tiedemann teaches the signal strength measurement of active and candidate base station in order to perform a handoff. Chheda teaches measuring the value of Eb/No, comparing them to the target value, determining the base station that sends quality frame during handoff, and utilizing delta as the quality adjustment/selection factor. Thus, Tiedemann system can be modified to perform a handoff based upon the Eb/No and delta per Chheda teaching. In view of this, having the system of Tiedemann and then given the teaching of Chheda, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tiedemann, by measuring the value of Eb/No, comparing them to the target value, determining the base station that sends quality frame during handoff, and utilizing delta as the quality adjustment/selection factor, as taught by Chheda. The motivation to combine is to obtain the advantages/benefits taught by Chheda since Chheda states at col. 4, line 1-4 and col. 5, line 15-20 that such modification would optimize the reverse link power control during rapid rate changes and provide a way to adjust/select quality frame during the handoff.

Regarding Claim 13, the claim, which has substantially disclose all the limitations of the respective claim 4. Therefore, it is subjected to the same rejection.

Regarding claim 14, Tiedemann teaches measuring/obtaining required signal strength values from the target base station and the servicing base station as described above in claim 12. Chheda further teaches wherein the offset is a difference between the third parameter, Eb/Ni, and the second parameter, Eb/Nt (see col. 8, lines 1-42; Eb/No = $(Eb/No)_{tar}$ - Delta (i.e. **Delta = Eb/No - $(Eb/No)_{tar}$**).) In view of this, having the system of Tiedemann and then given the teaching of Chheda, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tiedemann, by defining the delta as the different between target value and received/measured value, as taught by Chheda, for the same motivation as stated above in Claim 12.

Regarding Claim 15, the claim, which has substantially disclose all the limitations of the respective claim 5. Therefore, it is subjected to the same rejection.

Regarding claim 16, Chheda further teaches wherein the FER parameter comprises a 1 % FER (see col. 3, line 30-44; note that FER rate operation at 1-2% target/threshold rate). In view of this, having the system of Tiedemann and then given the teaching of Chheda, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Chheda, by setting lower FER rate for higher quality traffic, as taught by Chheda, for the same motivation as stated above in Claim 12.

Regarding claims 17, Chheda further teaches wherein the offset is based on a Quality of Service (QoS) parameter (see col. 2, lines 14-20; note that delta value is the quality value according to GOS (grade of service).) In view of this, having the system of

Tiedemann and then given the teaching of Chheda, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tiedemann, by utilizing the delta value according to GOS, as taught by Chheda, for the same motivation as stated above in Claim 12.

Regarding Claim 18, the claim, which has substantially disclose all the limitations of the respective claim 7. Therefore, it is subjected to the same rejection.

Regarding Claim 19, the claim, which has substantially disclose all the limitations of the respective claim 8. Therefore, it is subjected to the same rejection.

Regarding Claim 20, the claim, which has substantially disclose all the limitations of the respective claim 10. Therefore, it is subjected to the same rejection.

Regarding Claim 21, Tiedemann discloses a computer program on a computing device (see FIG. 5 and 7A and B, method) wherein the program is capable of directing initiation of a reverse link portion of a previously directed handoff (see col. 3, lines 20-24; a mobile assist (i.e. on a reverse link portion) hard handoff; see FIG. 5, step 56, EDHM, Handoff Direction Message; see FIG. 7A, step 1104; see FIG. 5, steps 54-56; see col. 9, lines 35-43; see FIG. 7A, step 1104; see col. 14, lines 40-46) between a servicing base station (see FIG. 2, originating system base station S1; see col. 5, lines 26-30) and a target base station (see FIG. 2, destination system base station S2 (i.e.B1-B5); see col. 5, lines 32-35) that has been directed by a CDMA communication system (see FIG. 1, CDMA System; see col. 5, lines 16-20) having a plurality of base stations in communication (see FIG. 2, originating system base station S1 and destination system base station S2 (i.e.B1-B5); see col. 5, lines 26-35) with at least one mobile station (see FIG. 2, mobile station M1-M3), wherein each

base station transmits at least one associated and corresponding pilot channel that uniquely identifies the base station (see col. 5, lines 45-60; pilot signal/channel transmitted by base stations) comprising:

a) a first set of instruction for monitoring a first parameter (see FIG. 5, step 58,60; MIN_TOT_PWR; or see FIG. 7A, step 1106,1108,1112; Ec/Io or MIN_RX_PWR) obtained from the serving base station (see col. 9, lines 39-42; originating system base station), wherein the first parameter comprises the value that is associated with servicing base station (see col. 5, lines 50-60; see col. 6, lines 23-25, 40-49; see col. 14, lines 20-26, 45-50; note that the minimum power is the power/signal strength that transmits by the origination base station which is monitored/observed/measured and operated at the mobile station);

b) a second set of instruction for monitoring a second parameter (see FIG. 5, Step 58, 60; RECEIVED signal strength/power; or see FIG. 7A, step 1106, 1108,1112; Rx Power) obtained from the target base station (see FIG. 2, destination system base station S2 (i.e.B1-B5)), wherein the second parameter comprises the value that is associated with target base station (see col. 9, lines 40-55; see col. 14, lines 24-64; note that the receive signal strength/power, transmits by the destination base station, is monitored/observed/measured by the mobile station);

c) a third set of instruction for determining if the first parameter is less than or equal to the second parameter (see FIG. 5, step 60; see FIG. 7A, step 1108 and 1112; see col. 9, lines 45-50; see col. 14, lines 50-67; determining the signal strength for the hard handoff by comparing the measured signal strength values of target base station to original base station signal strength threshold);

d) a forth set of instruction for initiating a reverse link intergenerational hard handoff as the reverse link portion of a previously directed intergenerational handoff (see FIG. 5, step 60 and 62; see col. 9, lines 45-55; see FIG. 7A, steps 1112,1116,1118,1130; see col. 14, lines 55 to col. 15, lines 15; see col. 2, lines 1-55; a mobile assist (i.e. on a reverse link portion) inter-generation-system hard handoff) between the serving and target base stations if the first parameter is less than or equal to the second parameter (see FIG. 5, step 60 and 62; see col. 9, lines 45-55; see FIG. 7A, steps 1112,1116,1118,1130; see col. 14, lines 55 to col. 15, lines 15; a successful hard handoff);

wherein reverse link intergenerational hard handoff comprise a reverse link portion, distinct from a forward link portion (a reverse link from the remote unit is distinct from a forward link), and includes terminating transmissions from the mobile station to the servicing station and subsequently initiating transmission from the mobile station to the target base station (see col. 2, lines 1-55; col. 3, lines 20-24; a mobile assist (i.e. on a reverse link portion) inter-generation-system hard handoff where the mobile station breaks/terminates transmission from originating base station, and then makes/initiates transmission to target base station.)

Tiedemann does not explicitly disclose c) an offset; and d) initiating and performing the selections and/or adjustments if the first parameter is less than or equal to the sum of the second parameter and the offset.

However, the above-mentioned claimed limitations are taught by Chheda. In particular, Chheda teaches

a) monitoring a first parameter, wherein first parameter comprises the value of Eb/Nt (see FIG. 1, Measure Eb/No 105; see col. 2, lines 10-34; note that the value of Eb/No is the received power bit energy to noise density);

b) monitoring a second parameter, wherein the second parameter comprises the value Eb/Nt, that is associated with the target base station (see FIG. 1, Target Eb/No 110; see col. 2, lines 10-34; note that the value of Eb/No is the target received power bit energy to noise density);

c) determining if the first parameter is less than or equal to the sum of the second parameter and an offset (see col. 8, lines 1-42; Eb/No= $(Eb/No)_{tar}$-Delta (i.e. $(Eb/No)_{tar}$ = Eb/No + Delta); also see col. 4, lines 1-32, col. 2, lines 35-56; note that delta value (i.e. FER rate change) is determined by comparing the measured Eb/No with target $(Eb/No)_{tar.}$ Delta is used to adjust/define the transmission rate according to GOS (Grade of service));

d) initiating and performing the selections and/or adjustments if the first parameter is less than or equal to the sum of the second parameter and the offset (see col. 2, lines 35-56 and col. 5, line 1-20; note that quality frame selection between two base stations during handoff is performed according to the comparison results from step C.)

Note that Tiedemann teaches the signal strength measurement of active and candidate base station in order to perform a handoff. Chheda teaches measuring the value of Eb/No, comparing them to the target value, determining the base station that sends quality frame during handoff, and utilizing delta as the quality adjustment/selection factor. Thus, Tiedemann system can be modified to perform a handoff based upon the Eb/No and delta per Chheda teaching. In view of this, having the system of Tiedemann and then given the

teaching of Chheda, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tiedemann, by measuring the value of Eb/No, comparing them to the target value, determining the base station that sends quality frame during handoff, and utilizing delta as the quality adjustment/selection factor, as taught by Chheda. The motivation to combine is to obtain the advantages/benefits taught by Chheda since Chheda states at col. 4, line 1-4 and col. 5, line 15-20 that such modification would optimize the reverse link power control during rapid rate changes and provide a way to adjust/select quality frame during the handoff.

Regarding Claim 22, Tiedemann discloses an apparatus (see FIG. 4, Mobile Station) for initiating a reverse link portion of a handoff (see col. 3, lines 20-24; a mobile assist (i.e. on a reverse link portion) hard handoff) that has previously been directed (see FIG. 5, step 56, EDHM, Handoff Direction Message; see FIG. 7A, step 1104; see FIG. 5, steps 54-56; see col. 9, lines 35-43; see FIG. 7A, step 1104; see col. 14, lines 40-46) between a serving station (see FIG. 2, originating system base station S1; see col. 5, lines 26-30) and a target base station (see FIG. 2, destination system base station S2 (i.e.B1-B5); see col. 5, lines 32-35) in a CDMA communication system (see FIG. 1, CDMA System; see col. 5, lines 16-20) having a plurality of base stations in communication (see FIG. 2, originating system base station S1 and destination system base station S2 (i.e.B1-B5); see col. 5, lines 26-35) with at least one mobile station (see FIG. 2, mobile station M1-M3), wherein each base station transmits at least one associated and corresponding pilot channel that uniquely identifies the base station (see col. 5, lines 45-60; pilot signal/channel transmitted by base stations), and wherein the serving base and the target base station operate in accordance to different generations of

CDMA systems (see col. 2, lines 1-55; operation between CDMA inter-systems with employing alternate technology (i.e. alternate generation/system)) comprising:

a) means for sending a pilot signal measurement message (see col. 11, lines 25-35; see col. 10, lines 20-35; signal measurement message) to the serving base station (see FIG. 2, originating system base station S1; see col. 5, lines 26-30) and adding the target base station to an active set (see col. 9, lines 35-39; see col. 10, lines 25-36; adding to the active set) when a first parameter, Ec/Io, (see col. 11, lines 25-30, see col. 14, lines 24-27; Ec/Io) associated with the target base station (see FIG. 2, destination system base station S2 (i.e.B1-B5);); see col. 5, lines 32-35) is greater than a T -Add threshold parameter (see col. 11, lines 25-55; see col. 10, lines 20-35; T_Add), and

b) means for initiating a reverse link intergenerational hard handoff (see FIG. 5, step 60 and 62; see col. 9, lines 45-55; see FIG. 7A, steps 1112,1116,1118,1130; see col. 14, lines 55 to col. 15, lines 15; see col. 2, lines 1-55; a mobile assist (i.e. on a reverse link portion) inter-system hard handoff), wherein the hard handoff initiation means is responsive to the serving base station, and wherein the hard handoff initiation means initiates a reverse link intergenerational hard handoff as the revere link portion of an intergenerational handoff when the serving base station transmits an intergenerational handoff direction message to the mobile station (see FIG. 5, step 56, EDHM, Handoff Direction Message to mobile station; see FIG. 7A, step 1104; see FIG. 5, steps 54-56; see col. 9, lines 35-43; see FIG. 7A, step 1104; see col. 14, lines 40-46) and when a second parameter (see FIG. 5, step 58,60; MIN_TOT_PWR; or see FIG. 7A, step 1106,1108,1112; MIN_RX_PWR), associated with the serving base station (see FIG. 2, originating system base station S1; see col. 5, lines 26-

30) is less than or equal to a sum of a third parameter (see FIG. 5, Step 58, 60; RECEIVED signal strength/power; or see FIG. 7A, step 1106, 1108,1112; signal strength or Rx Power), associated with the target base station (see FIG. 2, destination system base station S2 (i.e.B1-B5); see FIG. 5, step 60; see FIG. 7A, step 1108 and 1112; see col. 9, lines 45-50; see col. 14, lines 50-67; comparing the measured signal strength values of target base station to original base station signal strength threshold in order to determine the signal strength for the hard handoff);

wherein reverse link intergenerational hard handoff comprise a portion of an intergeneration handoff, distinct from a forward link portion, and includes terminating signal transmissions from the mobile station to the servicing station and subsequently initiating signal transmission from the mobile station to the target base station (see col. 2, lines 1-55; col. 3, lines 20-24; a mobile assist (i.e. on a reverse link portion) inter-system hard handoff where the mobile station breaks/terminates transmission from originating base station, and then makes/initiates transmission to target base station. An inter-system hard handoff at reverse link from the remote unit is distinct from a forward link).

Tiedemann does not explicitly disclose the second parameter Eb/Ni is less than or equal to a sum of a third parameter, Eb/Nt and an offset.

However, the above-mentioned claimed limitations are taught by Chheda. In particular, Chheda teaches wherein determining a second parameter, Eb/Nt (see FIG. 1, Measure Eb/No 105; see col. 2, lines 10-34; note that the value of Eb/No is the received power bit energy to noise density), is less than or equal to a sum of a third parameter, Eb/Nt (see FIG. 1, Target Eb/No 110; see col. 2, lines 10-34; note that the value of Eb/No is the

target received power bit energy to noise density) and an offset (see col. 8, lines 1-42; Eb/No= $(Eb/No)_{tar}$-Delta (i.e. $(Eb/No)_{tar}$ = Eb/No + Delta); also see col. 4, lines 1-32, col. 2, lines 35-56; note that delta value (i.e. FER rate change) is determined by comparing the measured Eb/No with target $(Eb/No)_{tar}$. Delta is used to adjust/define the transmission rate according to GOS (Grade of service))

Note that Tiedemann teaches the signal strength measurement of active and candidate base station in order to perform a handoff. Chheda teaches measuring the value of Eb/No, comparing them to the target value, determining the base station that sends quality frame during handoff, and utilizing delta as the quality adjustment/selection factor. Thus, Tiedemann system can be modified to perform a handoff based upon the Eb/No and delta per Chheda teaching. In view of this, having the system of Tiedemann and then given the teaching of Chheda, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tiedemann, by measuring the value of Eb/No, comparing them to the target value, determining the base station that sends quality frame during handoff, and utilizing delta as the quality adjustment/selection factor, as taught by Chheda. The motivation to combine is to obtain the advantages/benefits taught by Chheda since Chheda states at col. 4, line 1-4 and col. 5, line 15-20 that such modification would optimize the reverse link power control during rapid rate changes and provide a way to adjust/select quality frame during the handoff.

Regarding claim 23, Tiedemann discloses wherein the mobile station handoff control module is further configured to initiate the handoff in response to servicing station (see col. 9, lines 39-42; originating system base station), when the servicing base station

transmits an intergenerational handoff direction message (see FIG. 5, step 56, EDHM, Handoff Direction Message; see FIG. 7A, step 1104; see FIG. 5, steps 54-56; see col. 9, lines 35-43; see FIG. 7A, step 1104; see col. 14, lines 40-46; originating system base station sends EDHM message to mobile station to initiate a hard handoff);

Regarding Claim 24, the claim, which has substantially disclose all the limitations of the respective claim 7. Therefore, it is subjected to the same rejection.

Regarding Claim 25, the claim, which has substantially disclose all the limitations of the respective claim 7. Therefore, it is subjected to the same rejection.

Regarding Claim 26, Tiedemann discloses a method (see FIG. 5 and 7Aand B, method) of initiating a handoff (see col. 3, lines 20-24; a mobile assist (i.e. on a reverse link portion) hard handoff) between a servicing base station (see FIG. 2, originating system base station S1; see col. 5, lines 26-30) and a target base station (see FIG. 2, destination system base station S2 (i.e.B1-B5); see col. 5, lines 32-35) in a CDMA communication system (see FIG. 1, CDMA System; see col. 5, lines 16-20) having a plurality of base stations in communication (see FIG. 2, originating system base station S1 and destination system base station S2 (i.e.B1-B5); see col. 5, lines 26-35) with at least one mobile station (see FIG. 2, mobile station M1-M3), wherein each base station transmits at least one associated and corresponding pilot channel that uniquely identifies the base station (see col. 5, lines 45-60; pilot signal/channel transmitted by base stations), and wherein the serving base and the target base station operate in accordance to different generations of CDMA systems (see col. 2, lines 1-55; operation between CDMA inter-systems with employing alternate technology (i.e. alternate generation/system)) comprising:

a) monitoring a first parameter (see FIG. 5, step 58,60; MIN_TOT_PWR; or see FIG. 7A, step 1106,1108,1112; signal strength or MIN_RX_PWR) reflected of a signal received from the serving base station (see col. 9, lines 39-42; originating system base station; see col. 5, lines 50-60; see col. 6, lines 23-25, 40-49; see col. 14, lines 20-26, 45-50; note that power/signal strength that transmits by the origination base station which is monitored/observed/measured and operated at the mobile station);

b) monitoring a second parameter (see FIG. 5, Step 58, 60; RECEIVED Ec/Io; or see FIG. 7A, step 1106, 1108,1112; signal strength or Rx Power) reflective of a signal received from the target base station (see FIG. 2, destination system base station S2 (i.e.B1-B5); see col. 9, lines 40-55; see col. 14, lines 24-64; note that the receive power, transmits by the destination base station, is monitored/observed/measured by the mobile station);

c) monitoring a different third parameter (see col. 11, lines 25-30, see col. 14, lines 24-27; Ec/Io) reflected of a signal received from the target base station (see FIG. 2, destination system base station S2 (i.e.B1-B5); see col. 5, lines 32-35);

d) determining whether the third parameter is greater than or equal than a predetermined threshold parameter T_Add (see col. 11, lines 25-55; see col. 10, lines 20-35; T_Add), and retuning to step if not, else sending a pilot strength measurement parameter (see col. 11, lines 25-35; see col. 10, lines 20-35; signal measurement message) to the servicing base station (see FIG. 2, originating system base station S1; see col. 5, lines 26-30) and adding the target base station to an active set (see col. 9, lines 35-39; see col. 10, lines 25-36; adding to the active set);

e) determining whether the serving base station (see col. 9, lines 39-42; originating system base station) transmitted an intergenerational handoff direction message (see FIG. 5, step 56, EDHM, Handoff Direction Message; see FIG. 7A, step 1104) to the mobile station, and returning to step (a) if not, else continuing to step (f) (see FIG. 5, steps 54-56; see col. 9, lines 35-43; see FIG. 7A, step 1104; see col. 14, lines 40-46; sending EDHM message to mobile station to initiate a hard handoff);

f) determining whether the first parameter is less than or equal to the sum of the second parameter (see FIG. 5, step 60; see FIG. 7A, step 1108 and 1112; see col. 9, lines 45-50; see col. 14, lines 50-67; determining the signal strength for the hard handoff by comparing the measured signal strength values of target base station to original base station signal strength threshold); returning to step (a) if not (see FIG. 5, steps 68,66,69,72,70,64 and back to step 56,58; see col. 9, lines 38 to col. 10, lines 10; or see FIG. 7A, step 1108, 1112, 1114 and FIG. 7B, 1122,1128,130,1132 and returns to measuring step 1124; see col. 14, lines 39 to col. 15, lines 60; note that when power strength of originating base station is not less than or equal to the power strength of target base station, the method returns to original system instead of successful handoff), else

initiating a reverse link handoff (see col. 3, lines 20-24; a mobile assist (i.e. on a reverse link portion) between the serving and target base stations (see page 4, paragraph 58; a handoff between two generations of CDMA) if the first parameter is less than or equal to the sum of the second parameter (see FIG. 5, step 60 and 62; see col. 9, lines 45-55; see FIG. 7A, steps 1112,1116,1118,1130; see col. 14, lines 55 to col. 15, lines 15; a successful hard handoff).

Tiedemann does not explicitly disclose f) initiating and performing the selections and/or adjustments if the first parameter is less than or equal to the sum of the second parameter and the offset.

However, the above-mentioned claimed limitations are taught by Chheda. In particular, Chheda teaches

a) monitoring a first parameter (see FIG. 1, Measure Eb/No 105; see col. 2, lines 10-34; note that the value of Eb/No is the received power bit energy to noise density);

b) monitoring a second parameter reflective of a signal from the target base station (see FIG. 1, Target Eb/No 110; see col. 2, lines 10-34; note that the value of Eb/No is the target received power bit energy to noise density);

f) determining if the first parameter is less than or equal to the sum of the second parameter and an offset (see col. 8, lines 1-42; Eb/No= $(Eb/No)_{tar}$-Delta (i.e. $(Eb/No)_{tar}$ = Eb/No + Delta); also see col. 4, lines 1-32, col. 2, lines 35-56; note that delta value (i.e. FER rate change) is determined by comparing the measured Eb/No with target $(Eb/No)_{tar}$. Delta is used to adjust/define the transmission rate according to GOS (Grade of service)), else

initiating and performing the selections and/or adjustments if the first parameter is less than or equal to the sum of the second parameter and the offset (see col. 2, lines 35-56 and col. 5, line 1-20; note that quality frame selection between two base stations during handoff is performed according to the comparison results from step C.)

Note that Tiedemann teaches the signal strength measurement of active and candidate base station in order to perform a handoff. Chheda teaches measuring the value of Eb/No, comparing them to the target value, determining the base station that sends quality frame

during handoff, and utilizing delta as the quality adjustment/selection factor. Thus, Tiedemann system can be modified to perform a handoff based upon the Eb/No and delta per Chheda teaching. In view of this, having the system of Tiedemann and then given the teaching of Chheda, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tiedemann, by measuring the value of Eb/No, comparing them to the target value, determining the base station that sends quality frame during handoff, and utilizing delta as the quality adjustment/selection factor, as taught by Chheda. The motivation to combine is to obtain the advantages/benefits taught by Chheda since Chheda states at col. 4, line 1-4 and col. 5, line 15-20 that such modification would optimize the reverse link power control during rapid rate changes and provide a way to adjust/select quality frame during the handoff.

Regarding Claim 27, the claim, which has substantially disclose all the limitations of the respective claim 6. Therefore, it is subjected to the same rejection.

Regarding Claim 28, the claim, which has substantially disclose all the limitations of the respective claim 5. Therefore, it is subjected to the same rejection.

Regarding Claim 29, Tiedemann discloses obtaining a first parameter, (see FIG. 5, step 58,60; MIN_TOT_PWR; or see FIG. 7A, step 1106,1108,1112; signal strength or MIN_RX_PWR) associated with the serving base station (see col. 9, lines 39-42; originating system base station; see col. 5, lines 50-60; see col. 6, lines 23-25, 40-49; see col. 14, lines 20-26, 45-50; note that power/signal strength that transmits by the origination base station which is monitored/observed/measured and operated at the mobile station). Chheda discloses a first Eb/No value (see FIG. 1, Measure Eb/No 105; see col. 2, lines 10-34; note that the

value of Eb/No is the received power bit energy to noise density). In view of this, having the system of Tiedemann and then given the teaching of Chheda, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tiedemann, by monitoring the value of Eb/No for the same motivation as described above in claim 26.

Regarding Claim 30, Tiedemann discloses obtaining a second parameter value (see FIG. 5, Step 58, 60; RECEIVED signal strength; or see FIG. 7A, step 1106, 1108,1112; signal strength or Rx Power), associated with the target base station (see FIG. 2, destination system base station S2 (i.e.B1-B5); see col. 9, lines 40-55; see col. 14, lines 24-64). Chheda discloses a second Eb/No value associated with the target base station (see FIG. 1, Target Eb/No 110; see col. 2, lines 10-34; note that the value of Eb/No is the target received power bit energy to noise density). In view of this, having the system of Tiedemann and then given the teaching of Chheda, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tiedemann, by monitoring the value of Eb/No for the same motivation as described above in claim 26.

Regarding Claim 31, Tiedemann discloses obtaining a third parameter value is an Ec/Io value (see col. 11, lines 25-30, see col. 14, lines 24-27; Ec/Io) associated with the target base station (see FIG. 2, destination system base station S2 (i.e.B1-B5), or candidate base station; see col. 5, lines 32-35).

Allowable Subject Matter

8. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments with respect to claims 1,2, and 4-25 have been considered but are moot in view of the new ground(s) of rejection.

10. Examiner maintains the allowable subject matter in accordance with previous office action.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N Moore whose telephone number is 571-272-3085. The examiner can normally be reached on M-F: 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JNM

2/25/05

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